Common SQL Syntax

Database Operations

- **Create Database:** CREATE DATABASE database_name;
- **Drop Database:** DROP DATABASE database_name;
- **Select Database:** USE database_name;
- **Show Databases:** SHOW DATABASES;

Data Types: Similar to programming languages like int and string.

INT: Integer type   **VARCHAR:** Variable-length string

TEXT: Text type   **DATE:** Date type

DATETIME: Date and time type   **FLOAT:** Floating-point type

DOUBLE: Double-precision floating-point type

BOOLEAN: Boolean type, storing TRUE or FALSE

Constraints: Ensure data integrity and correctness

PRIMARY KEY: Uniquely identifies each row in the table

FOREIGN KEY: Foreign key constraint

UNIQUE: Ensures the uniqueness of values in a column

NOT NULL: Ensures that a column cannot have NULL values

DEFAULT: Provides a default value for a column

AUTO_INCREMENT: Automatically increments the value

PRIMARY KEY, **the primary key constraint is used to uniquely identify each row of data in a table. Because it is unique, and each row has a different value.**

Table Operations

Create Table: CREATE TABLE table_name (

column1 datatype PRIMARY KEY,

column2 datatype,

column3 datatype

);

Drop Table: DROP TABLE table_name;

Describe Table: DESCRIBE table_name;

Modify Table:

- **Add Column:** ALTER TABLE table_name ADD column_name datatype;
- **Drop Column:** ALTER TABLE table_name DROP COLUMN column_name;
- **Modify Column Data Type:** ALTER TABLE table_name MODIFY COLUMN column_name new_datatype;
- **Rename Column:** ALTER TABLE table_name RENAME COLUMN old_name TO new_name;

Data Operations

Insert Data: INSERT INTO table_name (column1, column2, column3) VALUES (value1, value2, value3);

Query Data:

- **Select All Columns:** SELECT * FROM table_name;
- **Select Specific Columns:** SELECT column1, column2 FROM table_name;
- **Conditional Query:** SELECT * FROM table_name WHERE condition;

Update Data: UPDATE table_name SET column1 = value1, column2 = value2 WHERE condition;

Delete Data: DELETE FROM table_name WHERE condition;

Query Operations

Sort: SELECT * FROM table_name ORDER BY column_name [ASC|DESC];

Aggregate Functions:

- Count: SELECT COUNT(*) FROM table_name;
- Sum: SELECT SUM(column_name) FROM table_name;
- Average: SELECT AVG(column_name) FROM table_name;
- Max: SELECT MAX(column_name) FROM table_name;
- Min: SELECT MIN(column_name) FROM table_name;`

Group By: SELECT column_name, COUNT(*) FROM table_name GROUP BY column_name;